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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,270	04/26/2006	Dominic Berta	FE 6143 (US)	2471
34872	7590	10/26/2010		
BASELL USA INC. NEWTOWN SQUARE CENTER 3801 WEST CHESTER PIKE, BLDG. B NEWTOWN SQUARE, PA 19073				
EXAMINER				
LENIHAN, JEFFREY S				
ART UNIT		PAPER NUMBER		
1765				
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10/26/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/577,270

**Applicant(s)**

BERTA ET AL.

**Examiner**

Jeffrey Lenihan

**Art Unit**

1765

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14, 16, 17, 19, 20, 22-25, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14, 16, 17, 19, 20, 22-25, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office Action is responsive to the amendment filed on 8/16/2010.
2. The objections and rejections not addressed below are deemed withdrawn.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

***Claim Rejections - 35 USC § 103***

4. Claims 14, 16, 17, 19, 20, 22-25, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelliconi et al, WO 03/051984 (of record), in view of Winter et al, US5145819 (of record).
5. The rejection stands as per the reasons outlined in the previous Office Action, incorporated herein by reference (for claims 14, 16, 17, 19, 20, 22-25, 29).
6. Regarding the amendments to claim 14: Limitations regarding the Ziegler-Natta catalyst, polydispersity, the detectable regioerrors, and the 3-7 membered ring were discussed in the previous Office Actions. Copolymer (b) of the prior art composition is a copolymer comprising ethylene and 10-40% of a C<sub>4</sub>-C<sub>10</sub>  $\alpha$ -olefin (abstract), wherein 1-octene is disclosed as disclosed as an embodiment of the C<sub>4</sub>-C<sub>10</sub>  $\alpha$ -olefin (Page 3, lines 6-7).
7. Regarding claim 30: The recitation that the claimed component (c) is prepared using the species of metallocene catalyst recited in the claim is a product-by-process limitation. Product-by-process claims are directed towards the product; process limitations are considered only to the extent that they affect the final structure/properties of the product. As discussed in the previous Office Actions, the combination of Pelliconi

and Winter renders obvious the use of a metallocene catalyst corresponding to the generic metallocene structure recited in the independent claim to produce copolymer (a) of Pelliconi, corresponding to claimed component (c). As prior art renders obvious the use of a metallocene catalyst similar in structure to that recited in the instant claim, it is reasonably expected that the structure/properties of the prior art composition would not be materially different from those of the claimed invention. The burden is therefore shifted to applicant to provide evidence demonstrating that the claimed product-by-process limitation results in an unobvious difference between the claimed invention and the prior art.

### ***Response to Arguments***

8. Applicant's arguments filed 8/16/2010 have been fully considered but they are not persuasive.
9. Regarding the catalysts used: "A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments," *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.). Also, "[D]isclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments," *In re Susi* 440 F.2d 442, 169 USPQ 423 (CCPA 1971). (MPEP § 2123 [R-5]). As discussed in the previous Office Action, Pelliconi specifically teaches that the metallocene catalysts are particularly suitable for use in the production of copolymers (a) and (b) in the prior art composition; barring a showing of unexpected results, the

examiner maintains the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use metallocene catalysts disclosed by Pelliconi to prepare the copolymer components which Pelliconi explicitly states said metallocene catalysts are particularly suitable for. Pelliconi's disclosure of examples wherein a Ziegler-Natta catalyst is used to prepare copolymers (a) and (b) does not constitute a teaching away from the reference's disclosure that metallocene catalysts may be used to prepare those components. As Pelliconi explicitly teaches that the metallocene catalysts of Winter are particularly suitable for the production of copolymers (a) and (b), it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute said metallocene catalysts for the catalyst used to prepare the prior art copolymer component(s).

10. Regarding the use of 1-octene as the comonomer in the ethylene/1-octene copolymer: As noted above, Pelliconi explicitly discloses 1-octene as a suitable embodiment of the  $C_4$ - $C_{10}$   $\alpha$ -olefin. Similar to the rationale outlined in the previous paragraph, the mere fact that Pelliconi discloses examples wherein 1-butene is used as the comonomer is not sufficient to constitute a teaching away from Pelliconi's broader disclosure of olefin comonomers having greater than 4 carbon atoms.

11. Regarding the amount of comonomer in the claimed ethylene/1-octene copolymer component: Copolymer (b) of the composition of Pelliconi is disclosed to be a copolymer of ethylene and 10-40% of a  $C_4$ - $C_{10}$   $\alpha$ -olefin; the comonomer content in the prior art copolymer therefore overlaps the claimed range. It has been held that in the case where the claimed ranges overlap or lie inside ranges disclosed in the prior art, a

*prima facie* case of obviousness exists; see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (MPEP § 2144.05). Barring a showing of unexpected results demonstrating the criticality of the claimed range, it therefore would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the overlapping portion of the prior art range and the claimed range.

12. Regarding the allegedly unexpected results: Applicant attributes the allegedly unexpected results to the polydispersity index of the claimed component (a); however, as discussed in the previous Office Action, incorporated by reference, the difference between the claimed invention and the composition of Pelliconi is not the polydispersity index of claimed component (a). The difference between the claimed invention and the composition of Pelliconi is the use of the claimed metallocene catalyst for the production of claimed component (c). Applicant's specification, however, only discloses a single polymer which is used as component (c) in both the inventive examples and the comparative examples (specification page 18: under heading "Component c"; Table 3). Applicant therefore has not provided evidence demonstrating that unexpected results are obtained due to the difference between the claimed invention and the prior art.

13. Furthermore, the examiner notes that the allegedly unexpected results do not demonstrate the criticality of the claimed range with regards to the polydispersity index. The inventive examples disclose compositions wherein the polydispersity index of component (a) is 3.8 or 5; the comparative examples contain component (a) having polydispersity of 2.4. Examples 2 and 4 disclose compositions wherein component (a) is

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characterized by a polydispersity index of 3.8; the difference between this value and the claimed limitation "greater than 3.5" is therefore approximately 0.3. The comparative examples disclose comprise component (a) having a polydispersity of 2.4; the difference between this value and the claimed limit of 3.5 is 1.1, which is almost four times greater than the difference between the polydispersity of the inventive examples and the claimed value. As the difference between the polydispersity of the comparative example and the claimed limit is so much greater than the difference between the polydispersity of the inventive example and the claimed limit, the data cited by applicant does not establish the criticality of the claimed range.

### ***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Lenihan whose telephone number is (571)270-5452. The examiner can normally be reached on Monday through Thursday from 7:30-5:00 PM, and on alternate Fridays from 7:30-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Irina S. Zemell/  
Primary Examiner, Art Unit 1765

/Jeffrey Lenihan/  
Examiner, Art Unit 1765

/JL/